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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,753	09/12/2003	John M. Koegler-III	200310760-1	8167
22879 7590 04/30/2007 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER LAMB, CHRISTOPHER RAY	
			ART UNIT 2627	PAPER NUMBER
			MAIL DATE 04/30/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/661,753	KOEGLER ET AL.	
	Examiner	Art Unit	
	Christopher R. Lamb	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-15, 17-25, 27 and 31-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-15, 17-25, 27 and 31-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/28/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 16th, 2007 has been entered.

Information Disclosure Statement

2. The information disclosure statement filed March 28th, 2007 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 5, 6-15, 27, 33-38, 20-24, and 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to

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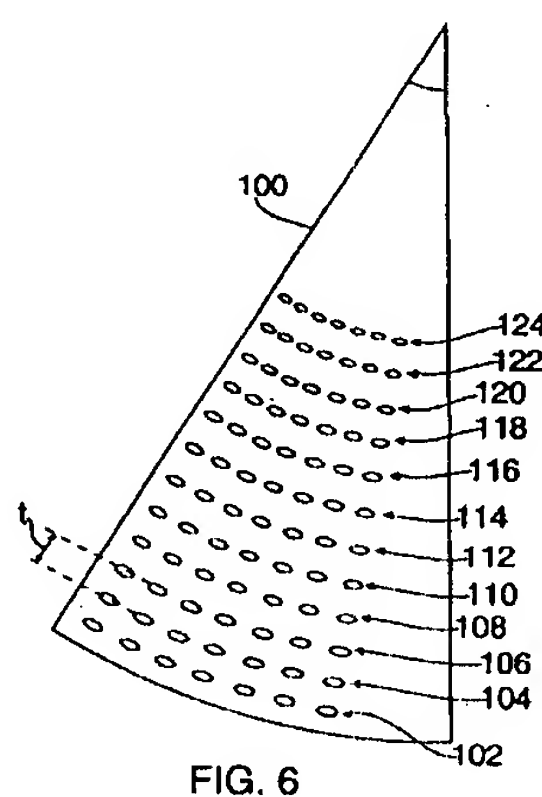
reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 5:

The subject matter that was not described is "at least some of the disk angular orientation features and at least some of the disk speed features have the same angular position."

It is not completely clear what this means: see the 35 U.S.C. 112, second paragraph, rejection that follows. For the purposes of this rejection, the Examiner has interpreted this language to mean that the respective features begin and end at the same angle. In other words, "the same angular position" means "identical angular positions." Alternatively, this language could also be interpreted to mean that the features are a different angular size but at least centered at the same angular position.

As an example of "the same angular position," see, for example, Fig. 6 of Maenza (US 5,602,388), reproduced here for convenience:



In the specification, Fig. 1 does depict the disk speed features and angular orientation features as having overlapping angular positions. The disk orientation

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feature 116, for example, overlaps two of the disk speed features. The angular position of the disk orientation feature 118 is encompassed by the angular position of the disk speed feature adjacent to it.

However, this figure appears to depict offset or overlapping angular positions, rather than identical or "the same" angular positions.

Regarding claims 6-15, 27, and 33-38:

They are dependent on claim 5.

Regarding claims 20-24 and 31:

Claim 20 recites language similar to claim 5; claims 21-24 and 31 are dependent on claim 20.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 5, 6-15, 27, 33-38, 20-24, and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding these claims:

The subject matter that is indefinite is "at least some of the disk angular orientation features having the same angular position as at least some of the disk speed features."

It is not clear what is being claimed. For the previous 35 U.S.C. 112, first paragraph, rejection, the Examiner assumed Applicant was attempting to claim the situation where the disk speed features and the disk angular orientation features had

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identical angular positions: this appears to be the most reasonable interpretation of the claim language.

However, Applicant may be attempting to claim the situation depicted in Fig. 1 of the specification. In this case, the claim is indefinite because the claim language appears to imply identical angular positions, whereas the subject matter Applicant regards as their invention is really overlapping angular positions: some portion of a disk speed feature and some portion of an angular orientation feature have the same angular position, but the two features do not have the same angular position.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 4, 5, 6, 8, 10, 20, 23-25, 27, 32, and 34-38 rejected under 35 U.S.C. 103(a) as being unpatentable over Honda (US 2002/0191517) in view of Klein (US 6,145,368).

The claims will be addressed in order of dependency rather than numerical order.

Regarding claim 5:

Honda discloses:

An optical disk, comprising:

a label region on the optical disk comprising a writeable material (paragraph 30).

Honda does not disclose:

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“substantially identical disk speed features, disposed on the disk in a first annular ring at a first radial position and located to be readable when writing the label region, to convey disk speed data; and

disk angular orientation features different from the disk speed features, disposed on the disk in a second annular ring at a second radial position different from the first radial position and located to be readable when writing to the label region, to convey disk angular orientation data, wherein at least some of the disk angular orientation features and at least some of the disk speed features have the same angular position.”

However, note that Honda does disclose tracking the disk speed (paragraph 37) and the angular orientation (paragraph 38).

Klein discloses:

substantially identical disk speed features, disposed on the disk in a first annular ring at a first radial position, to convey disk speed data (Fig. 2: 104; column 1, lines 25-45); and

disk angular orientation features different from the disk speed features, disposed on the disk in a second annular ring at a second radial position different from the first radial position (Fig. 2: 102) to convey disk angular orientation data (column 1, lines 24-45), wherein at least some of the disk angular orientation features and at least some of the disk speed features have the same angular position (apparent from Fig. 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Honda substantially identical disk speed features, disposed on

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the disk in a first annular ring at a first radial position and located to be readable when writing the label region, to convey disk speed data; and

disk angular orientation features different from the disk speed features, disposed on the disk in a second annular ring at a second radial position different from the first radial position and located to be readable when writing to the label region, to convey disk angular orientation data, wherein at least some of the disk angular orientation features and at least some of the disk speed features have the same angular position.

The motivation would have been to measure the disk speed and angular orientation directly from the disk, improving accuracy.

Regarding claim 6:

In Honda in view of Klein the first and second annular rings are configured for reading by an encoder (shown in Klein Fig. 1).

Regarding claim 8:

In Honda in view of Klein the disk angular orientation features are molded (they are slits in the disk so they must be molded).

Regarding claim 10:

In Honda in view of Klein the disk speed features are molded (they are slits in the disk so they must be molded).

Regarding claim 27:

In Honda in view of Klein the first and the second annular rings are radially adjacent on the disk (apparent from Klein Fig. 2).

Regarding claim 31:

In Honda in view of Klein the first and second annular rings are radially contiguous on the disk (apparent from Klein Fig. 2).

Regarding claim 34:

In Honda in view of Klein all the disk speed features have a substantially identical size and shape (apparent from Klein Fig. 2), and at least some of the disk angular orientation features have a different size or shape from the disk speed features (apparent from Klein Fig. 2).

Regarding claim 35:

In Honda in view of Klein at least some of the disk angular orientation features have a different size from others of the disk angular orientation features (apparent from Klein Fig. 2).

Regarding claim 36:

In Honda in view of Klein, a pattern formed by the disk angular orientation features is not symmetrical about at least some axes extending outward from the center of the disk (apparent from Klein Fig. 2: since they are different sizes, the pattern is not symmetrical).

Regarding claim 37:

In Honda in view of Klein, a pattern formed by the disk angular orientation features about at least some axes extending outward from the center of the disk is different from the pattern formed by the disk angular orientation features about at least some other axes extending outward from the center of the disk (apparent from Klein Fig. 2).

Regarding claim 38:

In Honda in view of Klein, an angular span of each disk speed feature is substantially identical to an angular span between each two disk speed features (apparent from Klein Fig. 2).

Regarding claims 20, 23, and 24:

These are claims to the method making the earlier claim disk. All elements positively recited correspond to elements already identified in earlier rejections. No further elaboration is necessary.

Regarding claim 25:

All elements positively recited have been identified with respect to earlier claims. No further elaboration is necessary.

Regarding claim 32:

All elements positively recited have been identified with respect to earlier claims. No further elaboration is necessary.

Regarding claim 2:

In Honda in view of Klein the label region is on a label side of the optical disk (paragraph 30).

Regarding claim 4:

In Honda in view of Klein the optical disk includes a data side and a label side (Honda paragraph 30).

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9. Claims 7, 12, 14, 15, 17, 19, 22, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Klein as applied to the claims above, and further in view of Osborne (US 5,107,107).

Regarding claim 7:

Honda in view of Klein discloses an optical disk as discussed above.

Honda in view of Klein does not disclose wherein the disk angular orientation features are defined in a mirror region of the label side of the optical disk. Honda in view of Klein discloses a transmissive scheme for the disk angular orientation features: light passes through slits and is measured on the other side of the disk.

Osborne discloses an alternative to a transmissive scheme: a reflective scheme wherein the disk features are pits defined in a reflective, or mirror region (column 6, lines 10-65). Osborne discloses that it is more sophisticated.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Honda in view of Klein wherein the disk angular orientation features are defined in a mirror region of the label side of the optical disk.

The motivation would have been to use a more sophisticated scheme. Also, because the reflective scheme taught by Osborne does not require slits through the disk, Osborne's method has more surface area on the opposite side of the disk, the data side, which would allow more data to be recorded.

Regarding claims 12, 14, and 15:

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As discussed above, Honda in view of Klein, and further in view of Osborne, discloses markings consisting of interspaced areas with and without molded pits. These molded pits define a light-deflecting feature (Osborne: column 6, lines 10-65).

Regarding claim 22:

All elements positively recited have already been identified with respect to earlier rejections. No further elaboration is necessary.

Regarding claim 33:

Honda in view of Klein, and further in view of Osborne, does not disclose wherein the first annular ring is configured for reading by an encoder and the second annular ring is configured for reading by an OPU.

Osborne compares a conventional encoder and an OPU. Osborne concludes that using an OPU can overcome the weaknesses of a conventional encoder (column 11, lines 25-60).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Honda in view of Klein, and further in view of Osborne, wherein the first annular ring is configured for reading by an encoder and the second annular ring is configured for reading by an OPU.

The motivation would have been to avoid the weaknesses of a conventional encoder when reading the second annular ring.

Regarding claims 17 and 19:

All elements positively recited have already been identified with respect to earlier claims. No further elaboration is necessary.

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10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Klein, and further in view of Osborne as applied to the claims above, and further in view of Bugner et al. (US 6,109,324).

Honda in view of Klein, and further in view of Osborne, discloses an optical disk as discussed above.

Honda in view of Klein, and further in view of Osborne, does not disclose wherein at least one of the disk speed features or the disk angular orientation features are printed.

Bugner discloses printing a disk angular orientation feature (column 3, line 65 to column 4, line 10). Bugner discloses that this allows a secondary image to be printed in registration with the primary image (column 4, lines 1-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Honda in view of Klein, and further in view of Osborne, wherein at least one of the disk angular orientation features are printed.

The motivation would have been to allow printing a secondary image in alignment with a primary image.

11. Claims 2, 13, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Klein, and further in view of Osborne as applied to the claims above, and further in view of Nagashima (US 5,670,947).

Regarding claim 13:

Honda in view of Klein, and further in view of Osborne, discloses an optical disk wherein the markings define a light-deflecting feature, as discussed above.

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Honda in view of Klein, and further in view of Osborne, does not disclose wherein the markings comprise a molded saw tooth to deflect light from a sensor.

Nagashima discloses a molded saw tooth can deflect light from a sensor (column 3, lines 25-45).

It would have been obvious to one of ordinary skill in the art to include in Honda in view of Klein, and further in view of Osborne, wherein the light-deflecting features are a molded saw tooth to deflect light from a sensor, because a molded pit and a molded saw tooth are used in the same environment, for the same purpose, and achieve the same result.

Regarding claims 2 and 21:

All elements positively recited have already been identified with respect to earlier rejections. No further elaboration is necessary.

12. Claims 32, 2, 4, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Nakamura et al. (US 4,929,822).

Regarding claim 32:

Honda discloses:

An optical disk, comprising:

a label region on the optical disk comprises a writeable material (paragraph 30).

Honda does not disclose:

a plurality of substantially identical disk speed features, disposed on the disk in an annular ring and located to be readable when writing the label region to convey disk speed data, wherein each of the disk speed features is substantially equally spaced

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from two adjacent others of the disk speed features in an annular ring located at a particular radial position on the disk, and wherein an angular span of each disk speed feature is substantially identical to an angular span between each two disk speed features.

However, Honda does not measuring the rotating speed of the disk (paragraph 37).

Nakamura discloses means for measuring the rotating speed of a disk (Fig. 13). Nakamura discloses a plurality of substantially identical disk speed features, disposed on the disk an annular ring (visible in Fig. 13), wherein each of the disk speed features is substantially equally spaced from two adjacent others of the disk speed features in an annular ring located at a particular radial position on the disk, and wherein an angular span of each disk speed feature is substantially identical to an angular span between each two disk speed features (apparent from Fig. 13).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Honda a plurality of substantially identical disk speed features, disposed on the disk in an annular ring and located to be readable when writing the label region to convey disk speed data, wherein each of the disk speed features is substantially equally spaced from two adjacent others of the disk speed features in an annular ring located at a particular radial position on the disk, and wherein an angular span of each disk speed feature is substantially identical to an angular span between each two disk speed features.

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The motivation would have been to accurately detect the rotation of the disk (Nakamura, column 1, lines 45-55): also, detecting the rotation by measuring the disk itself is more accurate than other methods.

Regarding claim 2:

In Honda in view of Nakamura the label region is on a label side of the optical disk (Honda paragraph 30).

Regarding claim 4:

In Honda in view of Nakamura the optical disk includes a data side and a label side (Honda paragraph 30).

Regarding claim 17:

In Honda in view of Nakamura the disk speed features are molded in a mirror region of the optical disk (Nakamura column 11, lines 25-60).

Regarding claim 19:

In Honda in view of Nakamura the disk speed features comprises interspaced areas with and without pits (Nakamura column 11, lines 25-60).

13. Claims 3 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Nakamura as applied to claim 32 above, and further in view of Nagashima.

Regarding these claims:

Honda in view of Nakamura discloses an optical disk as discussed above.

Honda in view of Nakamura does not disclose wherein the disk speed features are comprise a molded saw tooth to deflect light from a sensor.

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Nagashima discloses a molded saw tooth can deflect light from a sensor (column 3, lines 25-45).

It would have been obvious to one of ordinary skill in the art to include in Honda in view of Nakamura, wherein the light-deflecting features are a molded saw tooth to deflect light from a sensor, because a molded pit and a molded saw tooth are used in the same environment, for the same purpose, and achieve the same result.

Response to Arguments

14. Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bricot et al. (Us 4,556,966) discloses that it is preferable to detect speed and angular information directly from an optical disk; Ohtomo et al. (US 6,093,928) discloses separate annular rings for disk speed and angular orientation data.

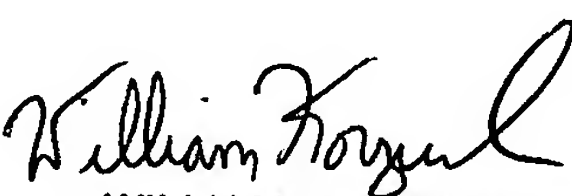
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (571) 272-5264. The examiner can normally be reached on 9:00 AM to 6:30 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 4/26/07


WILLIAM KORZUCH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600